# SUPPLEMENTARY MATERIAL

# Supplementary Table 1: List of oral antidiabetic drug codes

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| --- | --- | --- |
| Antidiabetics class | YJ code | |
| First 4 digits | 5-7 digits |
| SU | 3961 | 001, 002, 003, 004, 006, 007, 008 |
| BG | 3962 | (any) |
| SGLT2i | 3969 | 018, 019, 020, 021, 022, 023 |
| α-GI | 003, 004, 009 |
| TZD | 007 |
| DPP-4i | 010, 011, 012, 014, 015, 016, 017, 024, 025 |
| Glinide | 006, 008, 013 |

Abbreviations: α-GI=alpha-glucosidase inhibitors; BG=biguanides; DPP-4i=dipeptidyl peptidase-4 inhibitors; SGLT2i=sodium glucose co-transporter-2 inhibitors; SU=sulfonylureas; TZD=thiazolidinediones.

# Supplementary Table 2: List of ICD10 or Japan-specific standardized disease codes used for assessing diabetes-related complications

| **DCSI score** | **ICD-10† or Japan-specific standardized diagnosis code** | |
| --- | --- | --- |
| **Retinopathy** | | |
| 1 | E11.3  E14.3 | Type 2 diabetes mellitus, With ophthalmic complications  Unspecified diabetes mellitus, With ophthalmic complications |
| 1 | H35.0  H35.6  H35.8  H35.9 | Background retinopathy and retinal vascular changes  Retinal hemorrhage  Other specified retinal disorders  Unspecified retinal disorder |
| 1 | 8830980  8838768 | Cystoid macular edema |
| 2 | H33.x | Retinal detachments and breaks |
| 2 | H35.2 | Other proliferative retinopathy |
| 2 | H54.x | Blindness and low vision |
| 2 | H43.1 | Vitreous hemorrhage |
| **‡Nephropathy** | | |
| 1 | E11.2  E14.2 | Type 2 diabetes mellitus, With renal complications  Unspecified diabetes mellitus, With renal complications |
| 1 | N00.x | Acute nephritic syndrome |
| 1 | N04.x | Nephrotic syndrome |
| 1 | N08.x | Glomerular disorders in diseases classified elsewhere |
| 1 | N03.x | Chronic nephritic syndrome |
| 1 | N05.x | Unspecified nephritic syndrome |
| 1 | 8844106  8847577  8847578  8847579  8847580  8847581 | CKD  CKD Stage 1  CKD Stage 2  CKD Stage 3  CKD Stage 3a  CKD Stage 3b |
| 1 | Lab | Serum creatinine ≥1.5 but ≤ 2.0 mg/dL |
| 1 | Lab | eGFR ≥30 but ≤ 59 mg/dL (CKD Stage 3) |
| 2 | 8847582  8847583  8848103  N18.0  N18.9  N19.x | CKD Stage 4  CKD Stage 5  CKD Stage 5D  End-stage renal disease  Chronic renal failure, unspecified  Unspecified renal failure |
| 2 | Lab | Serum creatinine >2 mg/dL |
| 2 | Lab | eGFR < 30 mg/dL (CKD Stage 4-5) |
| **Neuropathy** | | |
| 1 | E11.4  E14.4 | Type 2 diabetes mellitus, With neurological complications  Unspecified diabetes mellitus, With neurological complications |
| 1 | G90.0 | Idiopathic peripheral autonomic neuropathy |
| 1 | G56.x  G57.x  G58.7 | Mononeuropathies of upper limb  Mononeuropathies of lower limb  Mononeuritis Multiplex |
| 1 | G60.9 | Hereditary and idiopathic neuropathy, unspecified |
| 1 | G73.0 | Myasthenic syndromes in endocrine diseases |
| 1 | I95.1 | Orthostatic hypotension |
| 1 | 8848108 | Diabetic gastroparesis |
| 1 | K59.1 | Functional diarrhea |
| 1 | N31.9 | Neuromuscular dysfunction of bladder, unspecified |
| 1 | M14.6 | Charcôt’s joint |
| 1 | S04.x  H49.0  H49.1  H49.2 | Injury to cranial nerve  Third [oculomotor] nerve palsy  Fourth [trochlear] nerve palsy  Sixth [abducent] nerve palsy |
| **Cerebrovascular** | | |
| 1 | G45.x | Transient cerebral ischemic attacks and related syndromes |
| 2 | I61.x | Intracerebral hemorrhage |
| 2 | I63.x  I64.x  I65.x  I66.x  I69.0 | Cerebral infarction  Stroke, not specified as haemorrhage or infarction  Occlusion and stenosis of precerebral arteries, not resulting in cerebral infarction  Occlusion and stenosis of cerebral arteries, not resulting in cerebral infarction  Sequelae of cerebrovascular disease |
| **Cardiovascular** | | |
| 1 | I24.x | Other acute ischemic heart disease |
| 1 | I20.x | Angina pectoris |
| 1 | I25.0, I25.1, I25.3-I25.9 | Chronic ischemic heart disease |
| 1 | I70.0, I70.1, I70.8, I70.9 | Atherosclerosis |
| 2 | I21.x  I22.x  I23.x | STEMI and NSTEMI  Subsequent STEMI and NSTEMI  Complications following STEMI and NSTEMI |
| 2 | I25.2 | Old myocardial infarction |
| 2 | I47.2 | Ventricular tachycardia |
| 2 | I48.x | Atrial fibrillation and flutter |
| 2 | I49.0 | Ventricular fibrillation and flutter |
| 2 | I46.x | Cardiac arrest |
| 2 | I50.x | Heart failure |
| 2 | I70.2 | Atherosclerosis of arteries of extremities |
| 2 | I71.x | Aortic aneurysm/dissection |
| **Peripheral Vascular Disease** | | |
| 1 | E11.5  E14.5 | Type 2 diabetes mellitus, With peripheral circulatory complications  Unspecified diabetes mellitus, With peripheral circulatory complications |
| 1 | I72.4 | Aneurysm of artery of lower extremity |
| 1 | I73.9 | Peripheral vascular disease, unspecified  Intermittent claudication |
| 1 | S91.3 | Open wound of foot |
| 2 | A48.0 | Gas gangrene |
| 2 | I74.3 | Embolism and thrombosis of arteries of the lower extremities |
| 2 | L97.x | Ulcer of lower limb, not elsewhere classified |
| 2 | R02.x | Gangrene, not elsewhere classified |
| **Metabolic** | | |
| 2 | E11.1  E14.1 | Type 2 diabetes mellitus, With ketoacidosis complications  Unspecified diabetes mellitus, With ketoacidosis complications |
| 2 | E11.0  E14.0 | Type 2 diabetes mellitus, With coma  Unspecified diabetes mellitus, With coma |

†ICD-10 2003 version (second revision) was used (<http://apps.who.int/classifications/apps/icd/icd10online2003/fr-icd.htm>). Algorithms developed in prior studies[27, 28] were followed.

‡Laboratory test results were used where available. When the criterion by laboratory test results and by diagnosis did not match, the higher score was chosen.

Abbreviations: CKD=chronic kidney disease; DCSI=Diabetes Complication Severity Index; eGFR=estimated glomerular filtration rate; STEMI=ST-segment elevation myocardial infarction, NSTEMI=non-ST-segment elevation myocardial infarction

